

ABSTRACT OF THE DISCLOSURE

5 A system and method for monitoring cellular activity in a cellular specimen.
According to one embodiment, a plurality of excitable markers are applied to the specimen.
A multi-photon laser microscope is provided to excite a region of the specimen and cause
fluorescence to be radiated from the region. The radiating fluorescence is processed by a
spectral analyzer to separate the fluorescence into respective wavelength bands. The
respective bands of fluorescence are then collected by an array of detectors, with each
10 detector receiving a corresponding one of the wavelength bands.